FILE 'USPAT' ENTERED AT 13:49:13 ON 03 FEB 1999

L1 9823 SILVER (W) NITRATE OR AG (1W) NO
L2 484275 METAL# (1A) FUEL# OR ALUMINUM OR TITANIUM OR ZIRCONIUM OR MAGNESIUM OR MOLYBDENUM
L3 875 L1 (P) L2
L4 7 L3 AND 149/CLAS

1. 5,739,460, Apr. 14, 1998, Method of safely initiating combustion of a gas generant composition using an autoignition composition; Gregory D. Knowlton, et al., 102/324, 205; **149/45**, **109.6**; 280/741

2. 4,238,253, Dec. 9, 1980, Starch as fuel in gas generating compositions; Eugene F. Garner, **149/19.6**, **19.91**, **82**, **83**, **85**

3. 4,203,786, May 20, 1980, Polyethylene binder for pyrotechnic composition; Eugene F. Garner, **149/19.91**, **82**, **83**

4. 4,179,327, Dec. 18, 1979, Process for coating pyrotechnic materials; Alvin A. Seldner, 216/101; **149/3**; 252/79.1; 427/215, 309

5. 4,139,403, Feb. 13, 1979, Dinitroalkyl and fluorodinitroalkyl silicon compounds; Kurt Baum, et al., **149/88**, **23**; 556/422, 428, 440, 449

6. 3,883,373, May 13, 1975, Gas generating compositions; Eric William Sidebottom, **149/6**, **35**, **37**, **40**, **41**, **42**, **43**, **45**, **75**, **77**; 423/351

7. 3,793,920, Feb. 26, 1974, PROCESS FOR MAKING A CONDUCTIVE-MIX ELECTRICAL INITIATOR; Carl P. Sheran, 86/1.1; 102/202.8; **149/16**, **35**, **92**

L5 6278 L1 AND L2
L6 17 L5 AND 149/CLAS
L7 10 L6 NOT L4

1. 5,700,970, Dec. 23, 1997, Broken-emulsion and process for recycling emulsion explosives; Melvin Adam McNicol, 102/332; **149/19.6**, **19.91**

2. 5,507,889, Apr. 16, 1996, Precompression resistant emulsion explosive; John J. Mullay, et al., **149/2**, **60**, **83**, **85**, **110**

3. 5,454,890, Oct. 3, 1995, Cap-sensitive packaged emulsion explosive; William B. Evans, et al., **149/46**, **2**, **110**

4. 5,322,576, Jun. 21, 1994, Vegetable oil modified explosive; Clare T. Aitken, et al., **149/109.6**, **2**, **46**

5. 4,878,968, Nov. 7, 1989, Oxidizing salts of cubyl amines; Rodney L. Willer, et al., **149/45**; 60/210, 214, 215, 217; **149/46**, **47**, **92**, **119**; 564/458

6. 4,756,776, Jul. 12, 1988, Process for the production of an explosive and the explosive; Pieter S.

J. Halliday, et al., **149/2**; 102/430; **149/21**, **40**, **60**, **109.6**

7. 4,496,471, Jan. 29, 1985, Stable aqueous solution-type oxidizing agent composition for explosives; Yoshikazu Hirosaki, et al., 252/186.21; **149/46**, **75**, **77**, **108.8**

8. 4,304,906, Dec. 8, 1981, Heteropolysaccharide S-84; Kenneth S. Kang, et al., 536/114; **149/21**; 435/101, 104; 516/107; 536/119, 123

9. 4,221,736, Sep. 9, 1980, Bis-(3,3-dinitrobutyl)-polysiloxane; Kurt Baum, et al., 556/422; **149/88**

10. 3,732,694, May 15, 1973, METHOD FOR THE CATALYTIC DECOMPOSITION OF MONOPROPELLANT HYDRAZINE; Jack L. Blumenthal, et al., 60/218, 219; **149/36**; 502/313

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BSUM(5) A solid fuel, such as atomized **aluminum**, may, if required, be blended in together with the density reducing agent, in the blending step, to add to the energy of the explosive.

BSUM(19) The discontinuous phase may comprise ammonium nitrate with at least one further compound selected from the group consisting in oxygen-releasing salts and fuels which, together with the ammonium nitrate, forms a melt which has a melting point which is lower than that of ammonium nitrate. Such further compound may be an inorganic salt such as lithium nitrate, **silver** **nitrate**, lead nitrate, sodium nitrate, calcium nitrate, potassium nitrate, or mixtures thereof. Instead or in addition, the compound which together with the ammonium nitrate on heating forms a melt having a melting point which is lower than the melting point of ammonium nitrate may be an

DETD(22) In the blender 100 the base emulsion from the emulsifier device 80 is blended with atomized **aluminum** from the flow line 116. From the blender 100 the base emulsion/aluminium mixture passes via flow line 150 and hopper 132 through pump 134 and flow line 136 via density

L8 5 L5 AND 102/CLAS

1. 5,739,460, Apr. 14, 1998, Method of safely initiating combustion of a gas generant composition using an autoignition composition; Gregory D. Knowlton, et al., **102/324**, **205**; 149/45, 109.6; 280/741

2. 5,700,970, Dec. 23, 1997, Broken-emulsion and process for recycling emulsion explosives; Melvin Adam McNicol, **102/332**; 149/19.6, 19.91

3. 5,092,219, Mar. 3, 1992, Selective decomposition of nitrite esters and nitramines; David P. Rounbehler, et al., 86/50; 73/167, 863.12; 95/82; **102/301**; 436/156

4. 4,756,776, Jul. 12, 1988, Process for the production of an explosive and the explosive; Pieter S. J. Halliday, et al., 149/2; **102/430**; 149/21, 40, 60, 109.6

5. 3,793,920, Feb. 26, 1974, PROCESS FOR MAKING A CONDUCTIVE-MIX ELECTRICAL INITIATOR; Carl P. Sheran, 86/1.1; **102/202.8**; 149/16, 35, 92

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BSUM(39) The . . . Suitable melting point depressants for use with ammonium nitrate in the discontinuous phase include inorganic salts such as lithium nitrate, **silver** **nitrate**, lead nitrate, sodium nitrate, potassium nitrate; alcohols such as methyl alcohol, ethylene glycol, glycerol, mannitol,

BSUM(47) If . . . of such secondary fuels include finely divided solids. Examples of solid secondary fuels include finely divided materials such as: sulfur; **aluminum**; carbonaceous materials such as gilsonite, comminuted coke or charcoal, carbon black, resin acids such as abietic

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DETD(14) Sample . . . and the ribbon may be corrugated to provide addition surface area. The ribbon 96, which is formed, for example, of **molybdenum** foil about 0.002 cm thick, preferably has a base layer of dielectric material of 0.01-0.1 microns thickness such as silicon. . .

DETD(47) At . . . to promote pyrolysis of certain explosives at temperatures at or below 200.degree. C. Metals such as gold, platinum, nickel, and **molybdenum**, though they reduce somewhat the temperatures required for pyrolysis of explosives . . .

DETD(51) The **silver** **nitrate** then decomposes in the presence of hydrogen to produce nitric oxide, water, and elemental silver (reaction 2), and the remaining. . .

DETD(52) AgNO.sub.2 +H.sub.2 .fwdarw.**Ag**+**NO**+H.sub.2 O (2)

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BSUM(5) A solid fuel, such as atomized **aluminum**, may, if required, be blended in together with the density reducing agent, in the blending step, to add to the. . .

BSUM(19) The . . . which is lower than that of ammonium nitrate. Such further compound may be an inorganic salt such as lithium nitrate, **silver** **nitrate**, lead nitrate, sodium nitrate, calcium nitrate, potassium nitrate, or mixtures thereof. Instead or in addition, the compound which

DETD(22) In the blender 100 the base emulsion from the emulsifier device 80 is blended with atomized **aluminum** from the flow line 116. From the blender 100 the base emulsion/aluminium